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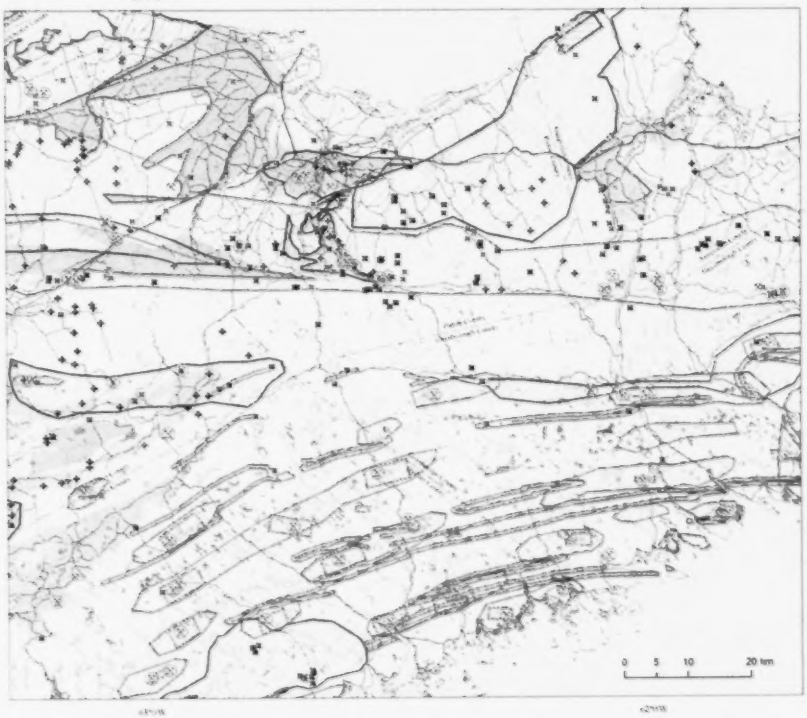
NOVA SCOTIA
Natural Resources

Rolling Out the Mineral Resource Map Atlas

Well informed land-use planning is critical to the safety of Nova Scotians, and to the environmental and economic sustainability of the province and its communities. In order to promote the use of geoscience data in land-use decisions the Mineral Resources Branch of the Nova Scotia Department of Natural Resources (DNR) has undertaken the development of a Mineral Resource Map Atlas, comprising four map themes (series) and encompassing a total of 16 individual 1:250 000 scale maps. The map atlas will summarize the department's current understanding of the mineral resource potential of the province.

The Mineral Resource Map Atlas has evolved from a need and an idea, through several stages of development over the past 18 months, to the point where the final map series has been compiled for review. The need for such maps has been great, as



This portion of the Mineral Resource Map Atlas is part of the mineral deposits series. The map shows gold districts, metallogenic domains, coal basins, peat areas, and occurrences of metallic and industrial minerals.

land-use decisions continue to be made, some of which rule out future mineral exploration and extraction. With the Government of Nova Scotia's commitment to designate 12% of the province's landmass as protected areas, DNR is working to ensure that mineral resources are an important consideration in the determination of where these protected areas should be.

Map series one summarizes the history of exploration and mining in Nova Scotia; series two displays the locations of mineral occurrences, deposits and broad mineral domains; series three delineates surficial and bedrock aggregate resources; and series four summarizes the information from the three previous series to assess the mineral resource potential of each claim block in the province on a ten-fold scale. The mineral domains of map series two and significant additions to map series three were completed in January 2009, permitting the final mineral potential map series to see its first iteration. Input from the entire Geological Services Division was obtained in compiling these maps, an exercise that was productive in its own right, particularly from the standpoint of transferring knowledge to newer members of staff.

The Mineral Resource Map Atlas was informally unveiled in mid-January at a meeting between the Mining Association of Nova Scotia and environmental non-government organizations (NGOs). When completed, the Mineral Resource Map Atlas will enable DNR to assess the mineral potential of proposed parks or protected areas in order to help ensure that land-use decisions do not have a negative impact on the long-term economic prosperity of Nova Scotia.

The Mineral Resource Map Atlas represents the first attempt in the province's history to synthesize all available mining, exploration and geoscience information into one cohesive product. The approach is innovative and unique among Canadian jurisdictions, and should prove valuable in future land-use decisions involving multiple stakeholders. Although compilation and revision of the map atlas will continue for some time, these map products will be publicly released.

Trevor MacHattie, John Calder, Mike MacDonald and Angie Ehler

Geological Services Division Broadens its Client Base

Over the last five to seven years geologists at DNR have experienced a significant expansion of the department's client base. Traditional clients from the mineral and energy resource industry still command much of our attention. Increasingly, however, the Geological Services Division has experienced requests for support from clients such as municipal planners, water resource managers, environmental consultants, climate change researchers and economic development agencies. In response to these requests the division has broadened the range of geoscience programs at DNR to include a hydrogeology program, an environmental geology program and an economic development program. These initiatives put a new emphasis on working in partnership with municipalities and economic development agencies.

This broader range of programming brings with it new challenges on how to effectively communicate the work being undertaken at DNR. For many years the department's annual Mining Matters conference acted as an illustrated summary of all the activities carried out by the Mineral Resources Branch. Well before these new programs were introduced, this approach to the conference occasionally led to an eclectic mix of presentations that could include everything from the economic potential of cranberry bogs, to comparing dinosaur footprints in North Medford, to the structure and predictability of Meguma Gold deposits. While in principal there is nothing wrong with variety, it was felt by some that the branch may be trying to serve too many purposes with one event. Many members of the mining and exploration industry have indicated that they favour an event that is more focused on exploration, mining and the opportunity to invest in companies based in Nova Scotia.

The Geological Services Division recognizes that there are significant benefits to being more strategic about where and how the division presents the information that results from its variety of programs. As a result, for the short term the division has decided that Mining Matters, in conjunction with participation in the Mineral Exploration Roundup in Vancouver and the Prospectors and Developers Association of Canada conference in Toronto, will continue to be the main venues for showcasing economic opportunities for mineral development in Nova Scotia (see article on p. 3). To ensure that our clients locally have the opportunity to hear about the full range of geoscience work being undertaken by DNR geologists the division has also decided to significantly increase its presence at the 2009 Atlantic Geoscience Society Colloquium. This event was held on February 6 and 7 in Moncton, New Brunswick, and focused on Quaternary geology, surficial geochemistry and current research in the Atlantic Provinces. In addition, representatives of the division will be looking for opportunities to make presentations at various local, national and international government, academic and industry conferences and conventions.

Rob Naylor

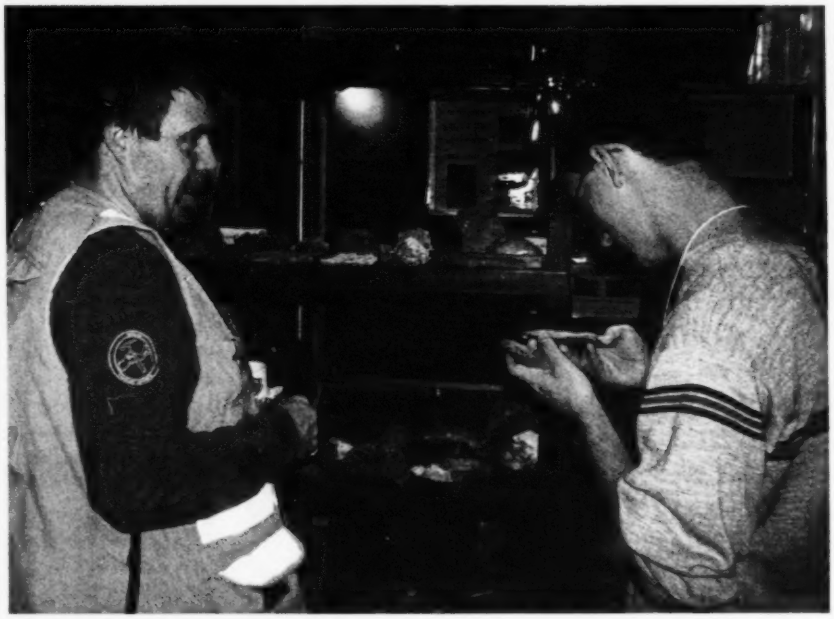
Promoting the Mineral Resource Potential of Nova Scotia

Promotion of Nova Scotia's mineral resource potential continues while the search for a new Liaison Geologist to replace Paul Smith is under way. The new Liaison Geologist is expected to begin work with the Geological Services Division by mid-March. In the meantime, the division's promotional activities are being carried out by other members of staff and management.

The Mining Matters conference (see photos to the right), hosted by DNR's Mineral Resources Branch in November 2008, was well attended and the contributions of volunteers both from the department and from the local mineral industry are gratefully acknowledged. In January Scott Swinden and Mike MacDonald travelled to Vancouver for Mineral Exploration Roundup 2009, which attracted over 5800 people. The Nova Scotia booth was well attended and the mood at the conference was surprisingly upbeat, given the downturn in metal prices (except gold). Geologists Trevor MacHattie, George O'Reilly and Bob Ryan are pitching in to prepare the Nova Scotia poster display for the Prospectors and Developers Association of Canada (PDAC) conference, which will be held in Toronto in early March. Division Secretary Mary Wolfe is organizing the annual Minister's breakfast and taking care of logistics. Geologist Ron Mills has taken on the task of preparing and organizing posters for the 11 subsidized (travel grant) prospectors who make up part of the Nova Scotia contingent to Toronto.

To sum things up, many staff members at DNR are chipping in to ensure that we take full advantage of promotional opportunities for mineral development in these troubled economic times. In addition, we eagerly await the appointment of a new Liaison Geologist who will spearhead these activities in the coming years.

Bob Ryan



Fred Walsh of the Nova Scotia Prospectors Association discusses Nova Scotia minerals with a visitor to Mining Matters 2008. Photo by H. V. Donohoe.

Minister of Natural Resources the Hon. David Morse (R) and geologist Garth DeMont (C) present the Terrance Coughlan Memorial Award for outstanding contributions to industrial mineral development to Francis Gillis. Photo by H. V. Donohoe.

From The Mineral Inventory Files

Three Graves in Margaree

Any geologist working in Nova Scotia will be aware of Hugh Fletcher and his vital contributions to our understanding of its geology and mineral resources. This year marks the 100th anniversary of his passing in 1909. I have referred to Fletcher's maps hundreds of times and have read and re-read most of his entries in the *Annual Reports* of the Geological Survey of Canada (GSC). This past summer I found out that Fletcher is buried in the Margaree Valley and I eventually found his grave in the cemetery at Margaree Centre, where it lies next to two others (Fig. 1). The three graves are those of Fletcher, his wife Christie (Christina McLeod) and a man named William Fletcher who died on Nov. 5, 1881. Finding Fletcher's grave led me to wonder: who was this man, what was he like, why was he buried in Margaree, and who are these other people? What follows is a summary of what I discovered, mostly through the assistance of Fletcher's great granddaughter Fiona Brown of Scotland.

Hugh Fletcher was born in London, England, on December 9, 1848. His father, a mining engineer, emigrated to Canada in 1860. Young Hugh's first experience of Nova Scotia came while his father worked as manager of the gold mine at Tangier. Later he attended the University of Toronto and graduated near the top of his class in 1872 with a degree in natural sciences. He then worked as a geological assistant to Charles Robb of the GSC, studying the Cape Breton coal fields. Fletcher replaced Robb in 1875 and assumed responsibility for the geological mapping of Nova Scotia. In those early years of confederation, Nova Scotia was considered a mineral-rich province and its coal resources were of great strategic importance to the young country. Fletcher would work his entire career in Nova Scotia and would be a mentor to E. R. Faribault, who joined the GSC in 1884. Together they produced the first series of geological maps of the province with Fletcher concentrating on Cape Breton and northern Nova Scotia, with its coal resources, and Faribault on the eastern and southern mainland, where most of the gold districts are found.

Fletcher was held in very high esteem by the province's mining industry and his work often directly assisted mining operations. Some of his other achievements included directing the Town of Truro to a potable water supply and advising the province on mineral policy. During the early 1900s, when there was a prolonged and bitter dispute between Fletcher and GSC paleontologist H. M. Ami about the age of some rock units, the *Canadian Mining Review* demanded that the issue be settled because it was holding up publication of ten of Fletcher's maps. It was while he was working on the relationship between the Springhill and Joggins coal districts in 1909 that Fletcher fell ill with pneumonia and he died on September 23, 1909, in Lower Cove where his field camp was located.

William Fletcher was Hugh's younger brother, also a graduate of the University of Toronto, and was working with Fletcher's mapping party in 1881. William drowned while he was trying to ford the Margaree River to visit his sweetheart Christie McLeod, who lived in Big Intervale. Hugh Fletcher met Christie McLeod at his brother William's funeral and the two were married about a year later. Hugh and Christie had two children, William (named after Hugh's late brother) and Christine. Christie died of tuberculosis in 1892 and she was buried in Margaree Centre. Perhaps Fletcher simply wanted to be buried next to his wife and brother, but if you read the glowing terms that he often used to describe the beauty of that area, especially Big Intervale, you can understand why he selected it as his final resting place.

G. A. O'Reilly

Figure 1. *The grave of eminent geologist Hugh Fletcher of the Geological Survey of Canada at Margaree Centre, Nova Scotia. Inset shows (from left to right) the graves of Fletcher, his wife Christie and brother William.*

Former Chief Justice Appointed to Lead Natural Resources Strategy

Retired Chief Justice of Nova Scotia Constance Glube has been named chair of a steering panel to lead the development of a new strategy governing the province's natural resources. The steering panel is charged with overseeing the balance of the strategy process, starting with phase two, which will incorporate information collected through public consultations held in 2008. Voluntary Planning, which organized the public consultations during phase one of the strategy process, will submit its final report to the Minister of Natural Resources early in 2009. In the third and final stage, the steering panel will review the strategy and ensure that it accurately reflects what was heard in the first two phases. The strategy is expected to be completed by March 2010.

The department will also appoint four, three-member panels of expertise to focus on the key components of the strategy: forests, minerals, parks and biodiversity. Membership on each panel of expertise will consist of individuals with technical expertise on the topic and the ability to thoroughly explore the issues surrounding it, as well as to conduct stakeholder consultation. Under the guidance of the steering panel, the four panels of expertise will define the process for further researching the issues and themes that emerged during the consultation process. The panels will then prepare and submit draft reports and recommendations to the steering panel. These reports and recommendations will inform phase three, when the DNR Strategy 2010 will be written.

DNR Press Release Dec. 23, 2008, and subsequent information from the DNR web site http://www.gov.ns.ca/natr

October-December 2008 Open Assessment Reports

Report Number	NTS	Licensee
AR ME 2006-114	11D/15D	Acadian Gold Corporation
AR ME 2006-115	11E/03B	Grant, S
AR ME 2006-116	11E/03B	Grant, S
AR ME 2006-117	11E/03B	Grant, S
AR ME 2006-118	11D/15C	Acadian Gold Corporation
AR ME 2006-119	11E/02B	DDV Gold Limited
AR ME 2006-120	11E/01D	MacNaughton, T
	11E/08A	
AR ME 2006-121	11E/02B	Acadian Gold Corporation
AR ME 2006-122	11E/02B	Acadian Gold Corporation
AR ME 2006-123	11D/14D	Acadian Gold Corporation
AR ME 2006-124	11D/15C	Acadian Gold Corporation
AR ME 2006-125	11D/15B, C	Acadian Gold Corporation
AR ME 2006-126	11D/13B	Acadian Gold Corporation
AR ME 2006-127	21A/02D	Allen, L J
AR ME 2006-128	11E/01A	Bezanson, P T
AR ME 2006-129	11E/01A	Bezanson, P T
AR ME 2006-130	11D/16D	Meguma Resource Enterprises Incorporated
AR ME 2006-131	11E/02D	Grant, S
AR ME 2006-132	11E/02D	Grant, S
AR ME 2006-133	11E/02D	Grant, S
AR ME 2006-136	11D/12D	Conrad Brothers Limited
AR ME 2006-137	11F/04C	Hudgtec Consulting Limited
	11F/05B	
AR ME 2006-138	11E/04B	Anthony, R C
AR ME 2006-139	11F/14B	MacKinnon, R P
AR ME 2006-141	11E/02D	Acadian Gold Corporation
AR ME 2006-142	11E/03B	Scozinc Limited
AR ME 2006-144	11E/03C, D	Landis Mining Corporation; Landis Energy Corporation
AR ME 2006-145	11E/03C, D	Landis Mining Corporation; Landis Energy Corporation
AR ME 2006-146	21A/07C	Hiltz, K R
AR ME 2006-147	21A/07C	Hiltz, K R
AR ME 2006-148	21A/07C	Hiltz, K R
AR ME 2006-149	11E/01C	Grant, S
	11E/08B	
AR ME 2006-150	11E/06C	Cullen, M P
AR ME 2006-151	11F/04B	MacNaughton, T
AR ME 2006-152	11E/01A, D	Acadian Gold Corporation
	11F/04B, C	
AR ME 2006-153	11F/04D	Grant, S
AR ME 2006-154	11F/04D	Grant, S
AR ME 2006-155	11F/04D	Acadian Gold Corporation
AR ME 2006-156	11F/04D	Acadian Gold Corporation
AR ME 2006-157	11F/04C	Acadian Gold Corporation
AR ME 2006-158	11F/14B	MacKinnon, R P
AR ME 2006-159	11E/07B	Richman, J
AR ME 2006-160	11F/15D	Unama'ki Resource Exploration and Investment
AR ME 2006-161	11E/11B	Allen, L J
AR ME 2006-162	11E/11B	Allen, L J
AR ME 2006-163	11E/04B	Anthony, R C

Susan Saunders and Norman Lyttle

Director of Mineral Management Don Jones Retires from DNR, Resumes Teaching

After 21 years of service to the Province of Nova Scotia, Don Jones (P. Eng.) retired as Director of Mineral Management (Mineral Resources Branch) on January 31, 2009. Don was born in Newfoundland, and educated at the Memorial University of Newfoundland, the University of Western Ontario, and Dalhousie University, where he received his Ph. D. in Engineering in 1987.

Known first in the former Department of Mines and Energy as Rita Jones's husband (Rita worked in the department before Don joined), Don soon made his imprint as Manager of the Engineering Section. With Don, the Engineering Section began in earnest to take the applied science of mining engineering into the realities of mine safety and site restoration. Merger of the former departments of Mines and Energy and Lands and Forests created the Department of Natural Resources in 1991, with an associated re-organization of the new department's operations. Don became Director of Mines in 1993.

In the late 1990s Don oversaw the implementation and maintenance of the 'One Window' Process for Mine Development Approvals, through which mining proposals are reviewed, permitted and monitored by experts in government. This approach formalized the way in which various government departments involved with mine development act collectively to streamline the review process for both government and the mining industry. Clear information was distributed on environmental approvals, mining leases and permits, requirements for regulatory monitoring over the life of a project, and requirements for site reclamation. During his years with the Department, Don has consistently ensured that reclamation plans are in place and funding committed prior to the start-up of any mine. It is a credit to Don and his team that provincial legislation requires the current level and detail of the reclamation plan and assurance that reclamation funding is in place.

Don's ability to balance the demands of industry with the requirements of the law was often based in discussion and debate. Out of this balance decisions were made. There could have been no more of a challenge to that ability than the operation of the department's Registry of Mineral and Petroleum Titles. Yet decisions were made as the department weathered industry's storms over wilderness areas, moratoriums, mine safety and escalating costs and requirements for doing business.

Always looking to the future and taking on challenges big or small, Don was a natural choice to oversee the logistics of what we remember as the 'Y2K Challenge'. We made it through, and so did he! Advances in technology in both industry and government were welcomed by Don. His level of understanding and awareness, and the skill to see all sides of an issue will be greatly missed here at DNR. Immediately upon leaving DNR, Don took up a teaching position with the Engineering Faculty at Dalhousie University. His education, experience and passion for mining will be a tremendous asset for his students, who, because of Don, will be better prepared to face the large range of challenges that face mining in the 21st Century.

Rick Ratcliffe

This series of photographs of Don Jones was taken circa 1990 by departmental photographer Reg Morrison. As we celebrate Don's retirement and the resumption of his teaching career, we also note the passing of Reg Morrison in February 2009. Reg served with the Government of Nova Scotia from 1976 until his retirement in 1996.

Geology Map of the Wolfville-Windsor Area Honoured Twice by ESRI

In 2008 the Mineral Resources Branch decided to produce a new version of Map ME 2000-3, Bedrock Geology Map of the Wolfville-Windsor Area, by R. G. Moore, S. A. Ferguson, R. C. Boehner and C. M. Kennedy. The current map was digitized and converted into GIS databases and a new map was produced using ESRI's ArcMap® software. Every year ESRI Canada holds a nation-wide contest to select twelve maps to appear in a calendar that ESRI produces. The Wolfville-Windsor map was selected to appear in the 2009 Map Gallery calendar. The calendar will be distributed by ESRI to clients throughout Canada. Previously, maps produced by the Mineral Resources Branch have appeared in the ESRI Canada Map Gallery calendar in 2000, 2001, 2004 and 2008.

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Congratulations are in order to the geological and GIS staff who have contributed to these award-winning map products since 2000.

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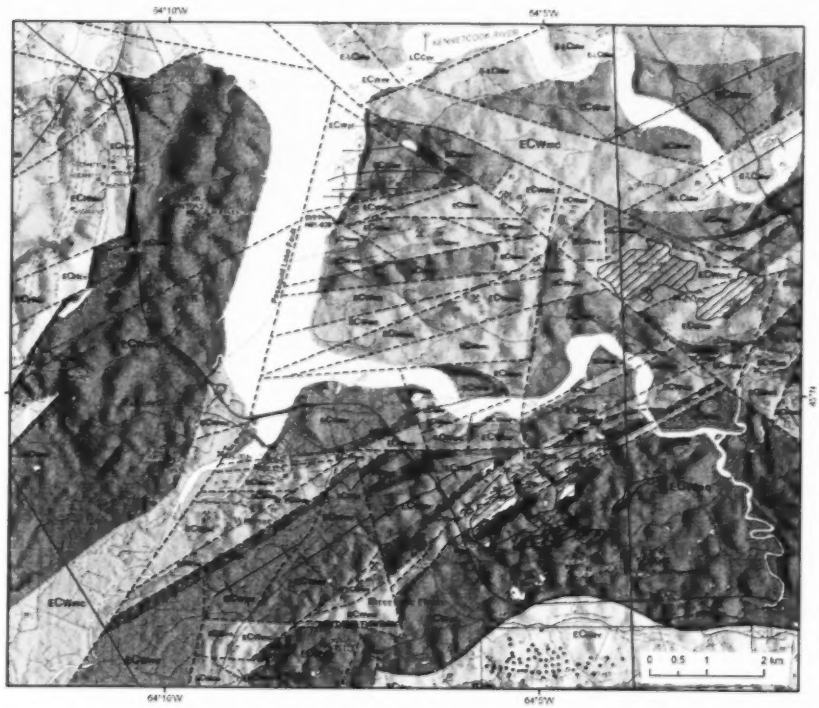

A small portion of the Wolfville-Windsor map area (scale 1:50 000), based on mapping by R. G. Moore, S. A. Ferguson, R. C. Boehner and C. M. Kennedy. Preparation of the new version of the map began in 2008.

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Dates to Remember

March 1-4, 2009
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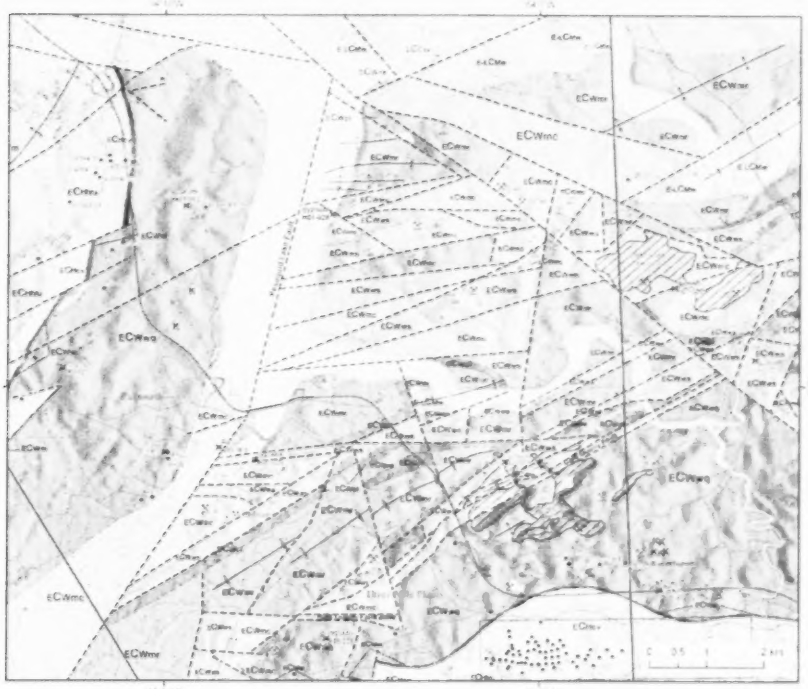

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